THE WINDSHIELD HEATING AIR APPLIANCE

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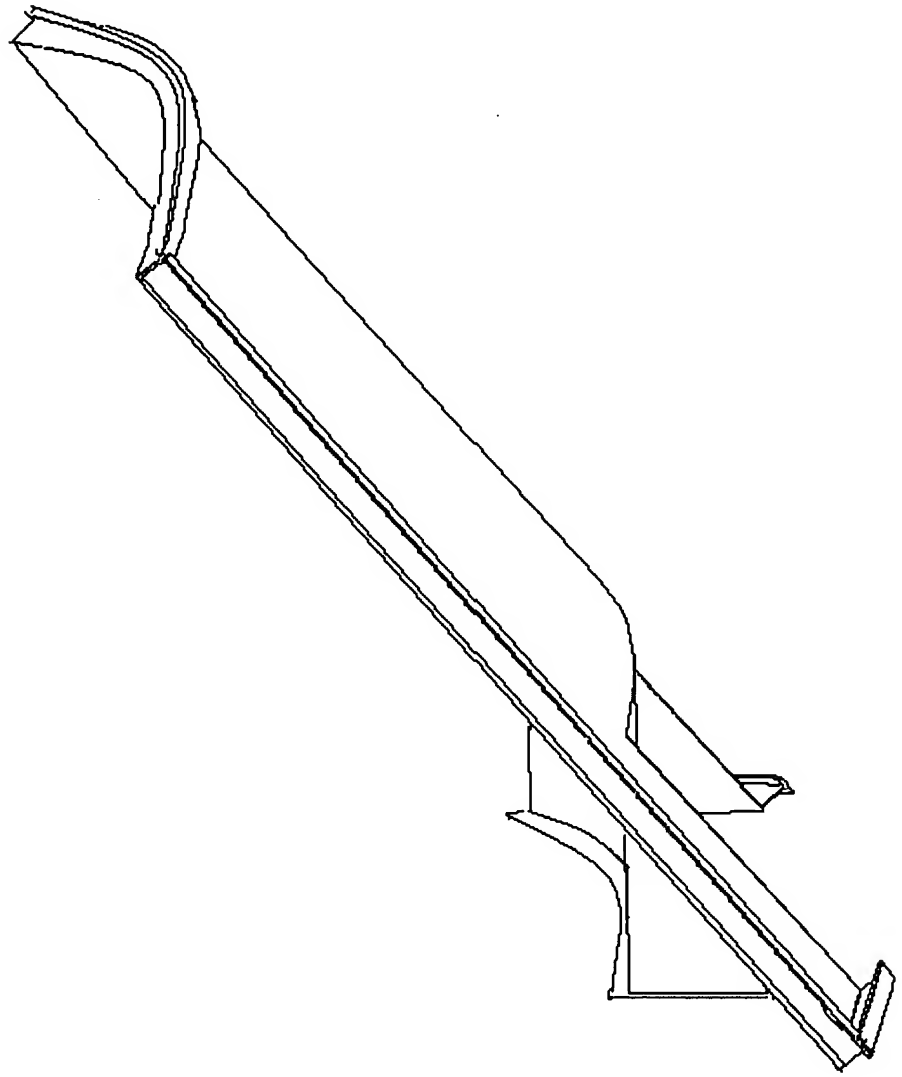

CROSS-REFERENCE TO RELATED APPLICATIONS

Not Applicable

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not Applicable

REFERENCE TO SEQUENCE LISTING, A TABLE, OR A COMPUTER PROGRAM LISTING COMPACT DISK APPENDIX

Not Applicable

BACKGROUND OF THE INVENTION

1. Field of the Invention

[1] The present invention is directed to prevent fogging of the windshield and to thaw accumulated ice on the windshield.

2. Prior Art

[2] Driving an automobile in the wet or cold climate, the moisture from the driver and passenger breathing forms a foggy layer on the windshield inside the automobile; which significantly reduces the driver visibility through the windshield and increases the risk of traffic accidents.

[3] Also, in a cold climate, an automobile cannot be operated until the ice on the windshield is melted and removed. A fairly long time is required to preheat the automobile interior space and melt the ice.

[4] Currently, there is no known approach that can effectively address the driving safety concern related to fogging of the windshield in a wet or cold climate. On the other hand, there is also no known effective way to quickly melt the ice on the windshield in a cold climate to reduce the preheat time of the automobile interior space.

BRIEF SUMMARY OF THE INVENTION

[5] It is an object of the present invention to create a simple approach that prevents fogging of the windshield in a wet or cold climate and thereby improve driving safety.

[6] Another object of the present invention is to speed up the windshield ice melting in a cold climate so that an automobile can be operated almost immediately.

[7] According to the present invention, the windshield heating air appliance is made of transparent plastic or other transparent material as Figure 1 and Figure 2 illustrate. The windshield, the windshield heating air appliance and the automobile dashboard form a complete assembly henceforth referred as the "controlled heating air space" that is shown in Figure 9. The controlled heating air space can be quickly heated and maintained at an optimal temperature to prevent fogging of the windshield or reduce the time required to melt the ice on the windshield in a wet or cold climate.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[8] The foregoing summary and the following detailed description may be better understood when read in conjunction with the accompanying drawings. Various embodiments are shown for the purpose of illustrating the invention. It is understood, however, that this invention is not limited to the precise arrangements shown.

[9] Figure 1 shows a view from the outside of the automobile; Angle B of the dashboard support and the length of edges X and Y may vary based on size and position of the air vents. The windshield heating air appliance is attached to the windshield surface through the top, left, right and bottom T edges.

[10] Figure 2 shows a view from the inside of the automobile; the dashboard support is attached to the dashboard surface.

[11] Figure 3 shows a view from the outside of the automobile; the dashboard is shown at the bottom.

[12] Figure 4 shows a view from the inside of the automobile; the dashboard is shown at the bottom.

[13] Figure 5 shows a view from the outside of the automobile; the dashboard and the air vents are shown at the bottom.

[14] Figure 6 shows a view from the outside of the automobile; the dashboard and the air vents are shown at the bottom.

[15] Figure 7 shows shaded surfaces of the windshield heating air appliance are designed to attach to the windshield surface.

[16] Figure 8 shows the bottom surface of the shaded portion is designed to attach to the dashboard surface.

[17] Figure 9 shows that the windshield surface is represented by the solid thick line; the windshield heating air appliance surfaces are represented by the dashed line; the dashboard surface is represented by hatched lines at the bottom of the figure; this completes the assembly referred as the "controlled heating air space", which consumes less than 5% of the entire automobile interior space.

[18] Figure 10 shows that a plastic windshield sunglass device is shown in A; the plastic windshield sunglass is attached to a hard handle on the right as shown in B; two handle holders attached to the windshield heating air appliance shown in C are used to lock the plastic windshield sunglass handle.

[19] Figure 11 shows another type of plastic windshield sunglass that has a series holes located around its edges through which the plastic windshield sunglass is mounted on the windshield heating air appliance.

[20] Figure 12 shows a windshield heating air appliance with two plastic windshield sunglass devices; two shaded surfaces represent two plastic windshield sunglasses pulled out from the two plastic sunglass devices.

[21] Figure 13 shows a windshield heating air appliance with a series transparent plastic hollow columns that are mounts for installing plastic windshield sunglasses as shown in Figure 11.

[22] Figure 14 shows a windshield heating air appliance with two plastic sunglasses shown as shaded surfaces.

[23] Figure 15 shows a view from the outside of the automobile; adjustable windshield rear view mirror base holes are shown on the top.

[24] Figure 16 shows a view from the inside of the automobile, adjustable windshield rear view mirror base holes are shown on the top.

[25] Figure 17 shows a left view from the outside of the automobile.

[26] Figure 18 shows a different left view from the outside of the automobile.

[27] Figure 19 shows an automobile windshield heating air appliance related T edge sizes where the height is 1.5 inches and the width is 1.0 inches; the dashboard support edge size is 0.8 inches wide

DETAILED DESCRIPTION OF THE INVENTION

[28] According to the present invention, the windshield heating air appliance is made of the transparent plastic or other transparent materials. The top, left, right and bottom T edges of the windshield heating air appliance are designed to attached to the windshield as shown in the shaded surfaces of Figure 7. The dashboard support edge is designed to attach to the dashboard as shown by the shaded surface in Figure 8. Figure 19 illustrates the dimensions of the T edge to be 1.5 inches tall and 1.0 inches wide and dashboard support edge to be 0.8 inches wide. Figure 5 and Figure 6 show the dashboard air vents are located between the windshield and the windshield heating air appliance. The windshield, the windshield heating air appliance and the automobile dashboard form a complete assembly henceforth referred as the "controlled heating air space" where the controlled heating air space can be quickly heated and maintained at an optimal temperature using the hot air supply from the dashboard air vents. Thus, the moisture from the passenger breathing can no longer form a foggy layer on the heated windshield and windshield heating air appliance. This ensures the best driver visibility in a wet or cold climate.

[29] When an automobile is parked in a parking lot or on the street in a cold climate, the normal practice to melt ice on the windshield is to preheat the automobile interior space which takes fairly long time. Since the "controlled heating air space" consumes less than 5% of an automobile interior space, it takes much less time to heat up the "controlled heating air space" compared to the entire automobile interior space. A shorter time to melt the ice on the windshield saves energy and reduces pollution.

[30] The large soft plastic windshield sunglass is another feature of the windshield heating air appliance. A rotatable plastic sunglass device as shown in Figure 10 is designed for simplicity. To use the plastic windshield sunglass when driving on a sunny day, just pull out the plastic windshield sunglass hard handle and lock the hard handle into the two handle holders on the windshield heating air appliance as shown in Figure 12. To put away the sunglass before driving when sunny conditions are not present, just release the hard handle from the handle holders, the rotatable plastic sunglass device automatically rotates the plastic windshield sunglass out of view.

[31] Another plastic windshield sunglass design is shown in Figure 11. Each plastic windshield sunglass has a series holes spreading on its edges, the windshield heating air appliance has a series hollow columns as shown in Figure 13. The columns are used as mounts for corresponding plastic windshield sunglasses. Figure 12 shows the windshield heating air appliance with plastic windshield sunglasses.

[32] Some automobile models have the rear view mirror base attached to the ceiling. Other automobiles have the rear view mirror base attached to the windshield. To handle the case where the rear view mirror base is attached to the windshield, the windshield heating air appliance could be cut open to accommodate the rear view mirror base as shown in Figure 15 and Figure 16.